Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. **(Previously Presented)** A catheter tip apparatus, comprising:

an elongated housing rotatably supported on a flexible catheter sheath, said housing supporting first and second reflective surfaces, said first reflective surface and second reflective surfaces being longitudinally spaced apart from one another;

a delivery fiber having a distal end adjacent to said first reflective surface; and

a collection fiber having a distal end adjacent to said second reflective surface.

2. **(Original)** The catheter tip apparatus as recited in claim **1**, wherein said housing comprises a frame member having a slot arranged therein for receipt and alignment of said first and said second reflective surfaces.

3. **(Original)** The catheter tip apparatus as recited in claim **1**, wherein said first reflective surface and said second reflective surface each comprise a beam redirecting member.

4. **(Previously Presented)** The catheter tip apparatus as recited in claim **2**, wherein said slot comprises shoulders to secure and align said reflective surfaces therein.

5. **(Currently Amended)** The catheter tip apparatus as recited in claim **2**, wherein said housing comprises a proximal stem portion for receipt into [[a]] the catheter sheath to permit manipulation of said tip from a proximal location.

6. **(Currently Amended)** The catheter tip apparatus as recited in claim **1**, wherein said housing comprises a frame member having a proximal end and a distal end, with an upstanding proximal block and an upstanding midblock, each block having an adjacent pocket for receipt of [[~~a~~]] on of the first and second reflective surfaces attachable therein.

7. **(Original)** The catheter tip apparatus as recited in claim **6**, wherein said reflective surface comprises a mirror glued into said pocket.

8. **(Previously Presented)** The catheter tip apparatus as recited in claim **6**, wherein each of said upstanding blocks has a bore therethrough for receipt of one of said fibers.

9. **(Currently Amended)** The catheter tip apparatus as recited in claim **1**, wherein said housing comprises an elongated generally cylindrically shaped frame member with a proximal end and a distal end, said frame member having at least two steps thereon of decreasing thickness in the distal direction, each of said steps having one of the first and second reflective surfaces [[~~a reflective surface~~]] mounted thereon, said proximal end having a stem portion of reduced diameter to permit rotative receipt within [[~~a~~]] the catheter sheath.

10. **(Original)** The catheter tip apparatus as recited in claim **9**, wherein said frame member has a cover member arranged to mate over said steps and said reflective surfaces.

11. **(Previously Presented)** The catheter tip apparatus as recited in claim **10**, wherein said cover member has an axially arranged slot thereon through part of its longitudinal length, said slot being disposed radially adjacent to each of said reflective surfaces to permit delivery and reflected collection of an energy beam therethrough.

12. **(Previously Presented)** The catheter tip apparatus as recited in claim **9**, wherein said stem portion is secured to a multi-layered, elongated coil spring arrangement to permit twisting control of said catheter tip.

13. **(Previously Presented)** The catheter tip apparatus as recited in claim **1**, wherein said reflective surfaces are integral with said housing.

14. **(Previously Presented)** The catheter tip apparatus as recited in claim **13** wherein said housing has a proximal end and a distal end, and said proximal end mates with a housing enclosure, said housing enclosure securing said collection fiber and said housing securing said delivery fiber.

15. **(Previously Presented)** The catheter tip apparatus as recited in claim **14**, wherein said housing enclosure has a longitudinally directed elongated slot therein, said slot being in radial alignment with said reflective surfaces formed on said housing to permit transmission and collection of radiant energy via said respective reflective surfaces to a computerized analysis system.

16. **(Original)** The catheter tip apparatus as recited in claim **1**, wherein said housing comprises a cylindrically shaped member having said first and second reflective surfaces machined thereon, and wherein said first and second reflective surfaces are non-parallel with respect to one another.

17. **(Previously Presented)** The catheter tip apparatus as recited in claim **16**, wherein said delivery and collection fibers are disposed symmetrically about a longitudinal axis of rotation of said housing, to minimize eccentricity of rotation of said catheter housing during rotation of said housing.

18. **(Previously Presented)** The catheter tip apparatus as recited in claim **1**, wherein said housing includes a bendable reflective surface.

19. **(Original)** The catheter tip apparatus as recited in claim **18**, wherein said housing has accumulation components defining a fiber alignment slot for miniaturization of said tip.

20. **(Previously Presented)** A catheter tip apparatus comprising:

an elongated housing having a longitudinal axis of rotation, said housing having a first reflective surface disposed thereon;

a second reflective surface disposed on said housing distal to said first reflective surface and in axial alignment therewith;

a delivery fiber in optical communication with said first reflective surface; and

a collection fiber in optical communication with said second reflective surface,

said delivery fiber being in communication with a controlled analytical-light-generating source and said collection fiber being in communication with a light-collection analysis device.

21. **(Previously Presented)** The catheter tip apparatus as recited in claim **20**, wherein said first reflective surface is larger than said second reflective surface.

22. **(Previously Presented)** The catheter tip apparatus as recited in claim **20**, wherein said first reflective surface comprises a curvilinear portion.

23. **(Previously Presented)** The catheter tip apparatus as recited in claim **20**, wherein said first reflective surface is not-parallel to said second reflective surface.

24. **(Previously Presented)** The catheter tip apparatus as recited in claim **20**, wherein at least one of said first and second reflective surfaces are spaced apart from said fibers.

25. **(Previously Presented)** The catheter tip apparatus as recited in claim **20**, wherein said first reflective surface is disposed radially within and spaced from the perimeter of said housing to permit a spreading of a light beam from said first reflective surface.

26. **(Previously Presented)** The catheter tip apparatus as recited in claim **24**, further comprising an index matching fluid arranged between a distal end of at least one of said fibers and at least one of said reflective surfaces.

27. **(Previously Presented)** The catheter tip apparatus as recited in claim **24**, wherein at least one of said reflective surfaces is positioned in a holding pocket arranged in said housing.

28. **(Previously Presented)** The catheter tip apparatus as recited in claim **27**, wherein said reflective surface comprises a mirror.

29. **(Previously Presented)** The catheter tip apparatus as recited in claim **27**, wherein said holding pocket aligns said reflective surface with said housing.

30. **(Previously Presented)** The catheter tip apparatus as recited in claim **20**, wherein said fibers are each arranged within a bore disposed within said housing.

31. **(Previously Presented)** The catheter tip apparatus as recited in claim **20**, wherein said fibers are equally diametrically opposed about said axis of rotation of said housing.

32. **(Previously Presented)** The catheter tip apparatus as recited in claim **20**, wherein said first reflective surface and said second reflective surface are disposed at an angle proportional to the numerical aperture of said first and second fibers to yield a light beam with adjacent edges that are parallel to one another.

33. **(Currently Amended)** A catheter tip apparatus comprising:

an optically-transparent sheath-enclosed elongated housing having a longitudinal axis of rotation, said housing having a first reflective surface disposed thereon;

a second reflective surface disposed on said housing distal to said first reflective surface and in axial alignment therewith;

a delivery fiber in optical communication with said first reflective surface;

a collection fiber in optical communication with said second reflective surface,

said delivery fiber being in communication with a controlled analytical-light generating source and said collection fiber being in communication with a light-collection analysis device; and

a generally curvilinear cover arranged to mate over a distal portion of said housing to enclose said reflective surfaces, said cover having at least one opening on an annular surface thereof to permit passage [~~up~~] of light therethrough.

34. **(Previously Presented)**The catheter tip apparatus as recited in claim **33**, wherein at least one of said reflective surfaces comprises a mirror.

35. **(Previously Presented)** The catheter tip apparatus as recited in claim **34**, wherein each of said fibers has a distal end arranged within said housing, and said at least one of said fibers abuts a non-reflective surface of said mirror.

36. **(Original)** The catheter tip apparatus as recited in claim **33**, wherein at least one of said reflective surfaces is disposed in a holding pocket.

37. **(Previously Presented)** The catheter tip apparatus as recited in claim **36**, wherein said reflective surface disposed in said holding pocket is secured in said holding pocket by an adhesive.

38. **(Previously Presented)** The catheter tip apparatus as recited in claim **33**, wherein an index matching fluid is disposed about said reflective surfaces.

39. **(Previously Presented)** A catheter tip apparatus arranged in a catheter for the delivery and collection of an energy signal to permit subsequent computerized analysis of body tissue by the collected signal, the apparatus comprising:

an optically-transparent sheath-enclosed elongated housing having a longitudinal axis of rotation, said housing having a delivery reflector disposed thereon;

a first collection reflector disposed on said housing distal to said first delivery reflector and in axial alignment therewith;

a delivery fiber in optical communication with said delivery reflector and a collection fiber in optical communication with said first collection reflector, said delivery fiber being in communication with a controlled analytical-light generating source and said collection fiber being in communication with a light-collection analysis device; and

a second collection reflector disposed on said housing distal to said first collection reflector, said second collection reflector also being in communication with said controlled analytical-light generating source and in axial alignment therewith.

40. **(Previously Presented)** The catheter tip apparatus as recited in claim **39**, wherein said first and second collection reflectors are disposed to collect light emitted from a common light delivery source.

41. **(Currently Amended)** A method of detecting a structure beneath a wall of a body lumen, the method comprising:

displacing a collection beam redirector and a delivery beam redirector along a longitudinal axis of a sheath-enclosed elongated catheter housing tip; and

disposing said beam redirectors at an angle with respect to said longitudinal axis, the angle being proportional to numerical apertures of [~~said~~] first and second energy fibers extending along the catheter..

42. **(Previously Presented)** The method as recited in claim **41**, further comprising:

bathing said redirectors in an index matching fluid to minimize back reflection in said sheath-enclosed housing.

43. **(Previously Presented)** The method as recited in claim **41**, further comprising:

disposing said redirectors such that fields-of-view associated with the redirectors yield adjacent parallel edges.

44. **(Canceled)**

45. **(Previously Presented)** The method as recited in claim **41**, further comprising selecting said numerical apertures to be different from one another.

46. **(Previously Presented)** The method as recited in claim **41**, further comprising selecting said beam redirectors to be reflectors.

47. **(Previously Presented)** The method as recited in claim **41**, further comprising providing optical fibers in optical communication with said redirectors.

48. **(Previously Presented)** The method as recited in claim **41**, further comprising providing waveguides in optical communication with said redirectors.

49. **(Previously Presented)** A catheter tip apparatus, comprising:

an elongated housing rotatably supported on a flexible catheter sheath, the housing supporting first and second reflective surfaces, the first reflective surface and second reflective surfaces being longitudinally spaced apart from one another;

a delivery fiber having a distal end adjacent to the first reflective surface, the distal end being stationary relative to the first reflective surface during rotation of the housing; and

a collection fiber having a distal end adjacent to the second reflective surface, the distal end being stationary relative to the second reflective surface during rotation of the housing.

51. (Previously Presented) A catheter tip apparatus, comprising:

a rotatable housing configured to rotate about a longitudinal axis of rotation at a selected angular velocity relative to a flexible catheter sheath;

a first reflective surface disposed on the rotatable housing, the first reflective surface rotating at the selected angular velocity when the rotatable housing rotates at the selected angular velocity;

a second reflective surface disposed on the rotatable housing, the second reflective surface being separated from the first reflective surface by a distance along the longitudinal axis, the second reflective surface rotating at the selected angular velocity when the rotatable housing rotates at the selected angular velocity;

a delivery fiber having a distal end adjacent to the first reflective surface, the distal end rotating at the selected angular velocity when the first reflective surface rotates at the selected angular velocity; and

a collection fiber having a distal end adjacent to the second reflective surface, the distal end rotating at the selected angular velocity when the second reflective surface rotates at the second angular velocity.